

REMARKS

In the non-final Office Action, the Examiner requested the “Search results from Copyright, Register Works Database” (reference U on the Form PTO-892); withdrew the allowability of the subject matter of claims 2, 3, 5, 8, 10, 11, 13, and 16; rejected claims 1, 3-9, 11-16, and 18-28 under 35 U.S.C. § 101 as directed to nonstatutory subject matter; and rejected claims 1, 3-9, 11-16, and 18-28 under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement.

By this Amendment, Applicant amends claims 1, 3, 5, 7-9, 11, 13, 15, 16, 18-22, and 24-28 to improve form, cancels claims 4, 6, 14, and 23, without prejudice or disclaimer of the subject matter thereof, and adds new claims 29-35. Applicant previously canceled claims 2, 10, and 17. Applicant respectfully traverses the Examiner’s rejections under 35 U.S.C. §§ 101 and 112. Claims 1, 3, 5, 7-9, 11, 13, 15, 16, 18-22, and 24-35 are pending.

REQUESTED REFERENCE

In paragraph 3 of the Office Action, the Examiner requested Applicant to supply reference U on the Form PTO-892. Applicant files concurrently herewith an Information Disclosure Statement citing the following reference: Copy of deposited work registered in the U.S. Copyright Office under number “Txu 790-574,” entitled “A VIRTUALIZED NETWORK.” Applicant believes that this is the reference requested by the Examiner. However, if this is not the requested reference, Applicant respectfully requests that the Examiner provide a more detailed description of the reference.

Applicant further notes that 37 C.F.R. § 201.2(d)(2) states:

(2) Requests for certified or uncertified reproductions of the copies, phonorecords, or identifying material deposited in connection with a copyright registration of published or

unpublished works in the custody of the Copyright Office will be granted only when one of the following three conditions has been met:

(i) The Copyright Office receives written authorization from the copyright claimant of record or his or her designated agent, or from the owner of any of the exclusive rights in the copyright as long as this ownership can be demonstrated by written documentation of the transfer of ownership.

(ii) The Copyright Office receives a written request from an attorney on behalf of either the plaintiff or defendant in connection with litigation, actual or prospective, involving the copyrighted work. The following information must be included in such a request:

(A) The names of all the parties involved and the nature of the controversy;

(B) The name of the court in which the actual case is pending or, in the case of a prospective proceeding, a full statement of the facts of the controversy in which the copyrighted work is involved; and

(C) Satisfactory assurance that the requested reproduction will be used only in connection with the specified litigation.

REJECTION UNDER SECTION 101

In paragraph 5 of the Office Action, the Examiner rejected claims 1, 3-9, 11-16, and 18-28 under 35 U.S.C. § 101 as allegedly directed to nonstatutory subject matter. The Examiner stated that:

The claims are directed to an abstract idea rather than a practical application of the idea. When claims are read in light of the Applicant disclosure the generic inclusion of the memory and processor are insufficient to render an otherwise non-statutory claim statutory.

(Office Action, page 3). Applicant respectfully traverses the Section 101 rejection with regard to pending claims 1, 3, 5, 7-9, 11, 13, 15, 16, 18-22, and 24-28.

The USPTO specifically states in the “Interim Guidelines for Examination of Patent Applications for Patent Subject Matter Eligibility” (Nov. 22, 2005 O.G. Notice) (hereinafter “Guidelines”) the following:

To properly determine whether a claimed invention complies with the statutory invention requirements of 35 U.S.C. 101, USPTO personnel must first identify whether the claim

falls within at least one of the four enumerated categories of patentable subject matter recited in section 101 (process, machine, manufacture or composition of matter).

* * *

The burden is on the USPTO to set forth a prima facie case of unpatentability. Therefore if the examiner determines that it is more likely than not that the claimed subject matter falls outside all of the statutory categories, the examiner must provide an explanation. ... If the examiner can establish a prima facie case that a claim does not fall into a statutory category, that does not preclude complete examination of the application for satisfaction of all other conditions of patentability. The examiner must further continue with the statutory subject matter analysis as set forth below.

Despite his clear obligation, the Examiner failed to make a determination of whether claims 1, 3, 5, 7-9, 11, 13, 15, 16, 18-22, and 24-28 fell within one of the four enumerated categories of patentable subject matter recited in Section 101. Applicant respectfully submits that each of independent claims 1, 9, and 22 (and their corresponding dependent claims) falls within one of the four enumerated categories of patentable subject matter recited in Section 101.

For example, independent claim 1 (and dependent claims 3, 5, 7, 8, 18, and 20) is directed to a system for providing real-to-virtual correspondence. The system comprises a memory configured to store a virtualized entity (VENT) table and an entity program corresponding to an entity in the real world, and a processor configured to execute instructions of the entity program. Thus, claims 1, 3, 5, 7, 8, 18, and 20 are clearly directed to a “machine”, which is one of the four enumerated categories of patentable subject matter recited in Section 101.

Independent claim 9 (and dependent claims 11, 13, 15, 16, 19, and 21) is directed to a computer-implemented method for providing real-to-virtual correspondence. Thus, claims 9, 11-16, 19, and 21 are directed to a “process”, which is also one of the four enumerated categories of patentable subject matter recited in Section 101.

Independent claim 22 (and dependent claims 24-28) is directed to a system that comprises a memory configured to store instructions and an entity program, and a processor configured to

execute the instructions stored in the memory. Thus, claims 22 and 24-28 are clearly directed to a “machine”, which, again, is one of the four enumerated categories of patentable subject matter recited in Section 101.

In light of the foregoing reasons, Applicant submits that the Section 101 rejection of claims 1, 3, 5, 7-9, 11, 13, 15, 16, 18-22, and 24-28 is improper.

Furthermore, even assuming, *arguendo*, that claims 1, 3, 5, 7-9, 11, 13, 15, 16, 18-22, and 24-28 are not directed to one of the four enumerated categories of patentable subject matter recited in Section 101, the Guidelines further state:

While abstract ideas, natural phenomena, and laws of nature are not eligible for patenting, methods and products employing abstract ideas, natural phenomena, and laws of nature to perform a real-world function may well be. In evaluating whether a claim meets the requirements of section 101, the claim must be considered as a whole to determine whether it is for a particular application of an abstract idea, natural phenomenon, or law of nature, rather than for the abstract idea, natural phenomenon, or law of nature itself.

In the present case, the Examiner made the bald allegation that the “claims are directed to an abstract idea rather than a practical application of the idea” (Office Action, page 3), without providing a proper analysis of the pending claims to formulate the rejection under Section 101. For this reason alone, Applicant submits that the Section 101 rejection of claims 1, 3, 5, 7-9, 11, 13, 15, 16, 18-22, and 24-28 is improper.

A proper analysis under Section 101 entails a determination of whether the claimed invention is a practical application of an abstract idea, law of nature, or natural phenomenon (Section 101 judicial exceptions). Independent claims 1, 9, and 22, and their dependent claims (claims 3, 5, 7, 8, 11, 13, 15, 16, 18-21, and 24-28), recite a practical application because they provide a transformation of an article to a different state or thing. The Guidelines state that if a claim provides a transformation or reduction of an article to a different state or thing, then the

Examiner shall end the inquiry and find that the claim meets the statutory requirement of Section 101.

For example, independent claim 1 recites a processor configured to execute instructions of the entity program for mimicking actions of the corresponding real world entity, and utilizing information contained in a VENT table to permit direct automation of real world functions without the prior systemization of the real world functions. The system of claim 1 transforms actions of real world entities in machine actions (i.e., “mimicking”), and transforms real world functions into machine functions (which is performed by the system processor as required by claim 1).

Independent claim 9 recites a computer-implemented method that comprises mimicking actions of the corresponding real world entities with the plurality of entity programs, and utilizing information contained in VENT tables to permit direct automation of real world functions without the prior systemization of the real world functions. The method of claim 9 transforms actions of real world entities in machine actions (i.e., “mimicking”), and transforms real world functions into machine functions (which is implemented by a computer as required by claim 9).

Independent claim 22 recites a system that comprises a processor configured to execute instructions stored in a memory for enabling an entity program to perform direct automation of a real action or function without the prior systemization of the real world action or function. The system of claim 22 transforms the real world action or function into a machine action or function (which is performed by the system processor as required by claim 22).

In light of this, Applicant submits that the Section 101 rejection is again improper for

claims 1, 3, 5, 7-9, 11, 13, 15, 16, 18-22, and 24-28.

Even assuming, *arguendo*, that claims 1, 3, 5, 7-9, 11, 13, 15, 16, 18-22, and 24-28 do not provide a transformation, claims 1, 3, 5, 7-9, 11, 13, 15, 16, 18-22, and 24-28 provide a practical application that produces a useful, tangible and concrete result. According to the Guidelines, in determining whether a claim provides a practical application that produces a useful, tangible, and concrete result, the examiner should consider and weigh the following factors: (1) the USPTO's official interpretation of the utility requirement provides that the utility of an invention has to be (i) specific, (ii) substantial and (iii) credible; (2) the tangible requirement does not necessarily mean that a claim must either be tied to a particular machine or apparatus or must operate to change articles or materials to a different state or thing; and (3) the process must have a result that can be substantially repeatable or the process must substantially produce the same result again.

Claims 1, 3, 5, 7-9, 11, 13, 15, 16, 18-22, and 24-28 provide a useful result in that they assign an entity counterpart (e.g., an entity program) in a virtualized network for an entity contained in the portion of the real world to be automated. Such a result is useful because it ensures that the action of each virtualized counterpart mimics the action of its real world counterpart, without prior systemization. Claims 1, 3, 5, 7-9, 11, 13, 15, 16, 18-22, and 24-28 produce a tangible real-world result in the form of a virtualized network that mimics the actions of real world counterparts. The results of claims 1, 3, 5, 7-9, 11, 13, 15, 16, 18-22, and 24-28 are also concrete because they may be repeated for any real world entity whose actions are to be mimicked.

In light of this, Applicant submits that the Examiner's Section 101 rejection of claims 1,

3, 5, 7-9, 11, 13, 15, 16, 18-22, and 24-28 is improper for the further reason that claims 1, 3, 5, 7-9, 11, 13, 15, 16, 18-22, and 24-28 provide a practical application that produces a useful, tangible and concrete result.

Based upon the foregoing arguments, Applicant respectfully requests that the Examiner reconsider and withdraw the Section 101 rejection of claims 1, 3, 5, 7-9, 11, 13, 15, 16, 18-22, and 24-28. Applicant further respectfully asserts that new claims 29-35 are proper under 35 U.S.C. § 101 for at the least the reasons set forth above for claims 1, 3, 5, 7-9, 11, 13, 15, 16, 18-22, and 24-28.

REJECTION UNDER SECTION 112, FIRST PARAGRAPH

In paragraph 8 of the Office Action, the Examiner rejected claims 1, 3-9, 11-16, and 18-28 under 35 U.S.C. § 112, first paragraph, as failing to comply with the enablement requirement. Applicant respectfully traverses the Section 112, first paragraph, rejection with regard to the claims presented herein.

With regard to the Section 112, first paragraph, rejection, the Examiner alleged in paragraph 9 of the Office Action:

Applicant's disclosure consisted of a list of proposed definitions to be used in a new paradigm for programming, followed by a description of the functioning system. Applicant has failed to set forth how to build or make the system implement in the new paradigm as disclosed.

Applicant respectfully submits that one skilled in the art could build or make Applicant's invention, as recited in claims 1, 3, 5, 7-9, 11, 13, 15, 16, 18-22, and 24-28, without undue experimentation.

The enablement requirement refers to the requirement of 35 U.S.C. § 112, first paragraph that the specification describe how to make and how to use the invention. The invention that one

skilled in the art must be enabled to make and use is that defined by the claim(s) of the particular application or patent. However, to comply with 35 U.S.C. § 112, first paragraph, it is not necessary to “enable one of ordinary skill in the art to make and use a perfected, commercially viable embodiment absent a claim limitation to that effect.” *CFMT, Inc. v. Yieldup Int’l Corp.*, 349 F.3d 1333, 1338, 68 U.S.P.Q.2d 1940, 1944 (Fed. Cir. 2003). Detailed procedures for making and using the invention may not be necessary if the description of the invention itself is sufficient to permit those skilled in the art to make and use the invention. M.P.E.P. § 2164.

The standard for determining whether the specification meets the enablement requirement was cast in the Supreme Court decision of *Mineral Separation v. Hyde*, 242 U.S. 261, 270 (1916) which postured the question: is the experimentation needed to practice the invention undue or unreasonable? That standard is still the one to be applied. *In re Wands*, 858 F.2d 731, 737, 8 U.S.P.Q.2d 1400, 1404 (Fed. Cir. 1988).

In making a determination that a disclosure does not satisfy the enablement requirement and whether any necessary experimentation is “undue,” there are several factors that must be considered (see M.P.E.P. §2164.01(a)). These factors include the breadth of the claims, the nature of the invention, the state of the prior art, the level of one of ordinary skill, the level of predictability in the art, the amount of direction provided by the inventor, the existence of working examples, and the quality of experimentation needed to make or use the invention based on the content of the disclosure. M.P.E.P. § 2164.01(a). As required by *In re Wands*, 858 F.2d at 740, 8 USPQ2d at 1407, the Examiner must consider all the evidence related to each of these factors, and any conclusion of nonenablement must be based on the evidence as a whole.

Applicant submits that the Examiner has not considered the factors required by *In re Wands* and,

as such, the Examiner's rejection of claims 1, 3, 5, 7-9, 11, 13, 15, 16, 18-22, and 24-28 under 35 U.S.C. § 112, first paragraph, based on enablement is improper.

Nonetheless, Applicant submits that claims 1, 3, 5, 7-9, 11, 13, 15, 16, 18-22, and 24-28 are enabled by Applicant's disclosure. For example, independent claim 1 is directed to a system for providing real-to-virtual correspondence. The system comprises a memory configured to store a virtualized entity (VENT) table and an entity program corresponding to an entity in the real world, and a processor configured to execute instructions of the entity program. The processor executes instructions of the entity program for mimicking actions of the corresponding real world entity, transmitting or receiving information to or from the entity program and the VENT table, and utilizing information contained in the VENT table to permit direct automation of real world functions without the prior systemization of the real world functions.

The specification more than sets forth how to make or build the system of claim 1 (and dependent claims 3, 5, 7, 8, 18, and 20), without undue experimentation. For example, pages 17-19 of the specification state:

Other entities may be virtualized into the network. A device-type VENT may include software, such as programs, threads, processes, information, databases, or objects; hardware, such as a computer, a laptop, a personal digital assistant (PDA), a wired or wireless telephone, or a similar wireless device; or a combination of both software and hardware.

* * *

As used herein the term "stored program machine" includes any machine such as a conventional computing machine (e.g., a computer) that includes a bus interconnecting a processor, and a main memory. As shown in Fig. 2, an entity, whether it be a client entity 104, a server entity 106, or a client/server entity 108, includes a bus 200 interconnecting a processor 202, a read-only memory (ROM) 204, a main memory 206, a storage device 208, an input device 210, an output device 212, and a communication interface 214. Bus 200 is a network topology or circuit arrangement in which all devices are attached to a line directly and all signals pass through each of the devices. Each device has a unique identity and can recognize those signals intended for it. Processor 202 includes the logic circuitry that responds to and processes the basic instructions that drive entity 104, 106,

108. ROM 204 includes a static memory that stores instructions and data used by processor 202.

* * *

As will be described below, an entity 104, 106, 108 consistent with the present invention may allow the functions of an entire organization to be gradually automated as each employee, independently, automates his/her own functions. Entity 104, 106, 108 performs this task in response to processor 202 executing sequences of instructions contained in a computer-readable medium, such as main memory 206. A computer-readable medium may include one or more memory devices and/or carrier waves.

Execution of the sequences of instructions contained in main memory 206 causes processor 202 to perform processes that will be described later. Alternatively, hardwired circuitry may be used in place of or in combination with software instructions to implement processes consistent with the present invention. Thus, the present invention is not limited to any specific combination of hardware circuitry and software.

* * *

A mirror illustrates certain aspects of the entity correspondence of the present invention. Let the images, reflected by the mirror, correspond to the program entities within the stored program environment. Then, for each physical entity in the view of the mirror there is exactly one reflected image, or a simple 1-to-1 match. In total, the virtualized network reflects the entire desired portion of the real world into the stored program machine. In any event, for every real entity, there is a counterpart program entity (virtualized entity) defined into the stored program machine, which will then be able to act for its counterpart.

Entity correspondence is straightforward. For each real entity, a counterpart is virtualized or defined. When a virtualized network spreads beyond enterprise, beyond community with virtualized network nodes all over the globe, there will be only one program corresponding to the virtualized "me" entity. Absolute 1-for-1 matching is the ideal correspondence between real and virtual world counterparts.

These sections of the specification more than sufficiently specify the exemplary types of hardware that may be used to implement the system recited in claims 1, 3, 5, 7, 8, 18, and 20.

For example, the system recited in these claims may include any entity 104, 106, or 108, and "entity 104, 106, 108 consistent with the present invention may allow the functions of an entire organization to be gradually automated as each employee, independently, automates his/her own functions. Entity 104, 106, 108 performs this task in response to processor 202 executing sequences of instructions contained in a computer-readable medium, such as main memory 206."

Page 21 of the specification states:

Considering the stored program machine an environment helps to visualize the present invention. Instead of emphasizing the logic and calculating characteristics of the processor unit, the present invention emphasizes the space characteristic of the memory unit. Within that space the present invention conceives an environment able to support entities, where those entities may operate and/or live.

Page 23 of the specification describes Fig. 3-1 and states:

Fig. 3-1 looks inside VN to see how this works, remembering the virtual environment is created by the adaptation to the stored program machine. Memory space within the stored program machine is illustrated in Fig. 3-1. The entry/virtualization of Hank causes his record to be entered into the VENT table, one of four tables used by VN. It contains a pointer to his address in stored program machine memory (virtual space). All program information associated with Hank, now or in the future, will go to this place in virtual space. The same is true for Beth except she was earlier virtualized – so she already had her VENT table entry with its pointer to her virtual space. That is why she was able to sponsor Hank and enter his information.

Page 27 of the specification states that “[i]n order to affect its single type of speak-listen interaction, VN utilizes the familiar mode of bit strings and binary logic and the older familiar medium of electrical transmission.”

These sections of the specification (as well as others) more than adequately disclose how exemplary virtual entities function in conjunction with a stored program machine (e.g., a computer). For example, the specification discloses that the memory of the computer contains virtualized entity (VENT) tables and provides space for VENTs (e.g., entity programs). The specification further discloses that there may be one VENT table per computer containing a record for each VENT. The specification further describes how the record for each VENT name may contain a pointer to the VENT's location in the memory and other VENT information. Thus, the specification more than enables the features recited in claims 1, 3, 5, 7, 8, 18, and 20.

Similar comments can be made for Applicant's independent claim 9, which is directed to a computer-implemented method for providing real-to-virtual correspondence. The method comprises providing a plurality of entity programs, each entity program corresponding to a

different entity in the real world; providing a plurality of virtualized entity (VENT) tables, each VENT table corresponding to one of the plurality of entity programs; mimicking actions of the corresponding real world entities with the plurality of entity programs; transmitting or receiving information between the entity programs; and utilizing information contained in the VENT tables to permit direct automation of real world functions without the prior systemization of the real world functions.

The specification again discloses how to perform the computer-implemented method of claim 9 (and dependent claims 11, 13, 15, 16, 19, and 21), without undue experimentation. For example, pages 17-19 sufficiently describe the “computer” that performs the “computer-implemented method” of claim 19. Pages 21, 23, and 27 of the specification, for example, properly describe how to mimic actions of real world entities with entity programs, and how to transmit/receive information between entity programs (e.g., via VENT tables, VENTs, pointers in VENT tables to VENTs, etc., as shown in Fig. 3-1). Thus, the specification again more than enables the features recited in claims 9, 11, 13, 15, 16, 19, and 21.

Independent claim 22 is directed to a system that comprises a memory configured to store instructions and an entity program, and a processor configured to execute the instructions stored in the memory. The processor executes instructions for matching the entity program with one of a plurality of real world entities, each real world entity performing one of a real world action or function, and enabling the entity program to perform direct automation of the real world action or function without the prior systemization of the real world action or function.

The specification provides ample disclosure of how to build or make the system of claim 22 (and dependent claims 24-28), without undue experimentation. For example, pages 17-19

sufficiently describe the exemplary types of hardware that may be used to implement the system recited in claims 22 and 24-28. Pages 21, 23, and 27 of the specification, for example, properly describe how to enable the entity program to perform direct automation of the real world action or function without prior systemization of the real world action or function (e.g., via VENT tables, VENTs, pointers in VENT tables to VENTs, etc., as shown in Fig. 3-1). The specification once again more than enables the features recited in claims 22 and 24-28.

In light of above, Applicant submits that the Examiner has not considered the factors required by *In re Wands* with respect each of the pending claims and, as such, the Examiner's rejection of these claims under 35 U.S.C. § 112, first paragraph, based on enablement is improper. Moreover, Applicant submits that the features recited in claims 1, 3, 5, 7-9, 11, 13, 15, 16, 18-22, and 24-28 are more than enabled by Applicant's disclosure. Clearly, one skilled in the art at the time of Applicant's invention would be able to make and use Applicant's invention, as recited in claims 1, 3, 5, 7-9, 11, 13, 15, 16, 18-22, and 24-28, without undue experimentation.

For at least the foregoing reasons, Applicant respectfully requests that the rejection of pending claims 1, 3, 5, 7-9, 11, 13, 15, 16, 18-22, and 24-28 under 35 U.S.C. § 112, first paragraph, based on the enablement requirement be reconsidered and withdrawn. Applicant further respectfully asserts that new claims 29-35 are proper under 35 U.S.C. § 112, first paragraph, for at the least the reasons set forth above for claims 1, 3, 5, 7-9, 11, 13, 15, 16, 18-22, and 24-28.

CONCLUSION

In view of the foregoing amendments and remarks, Applicant respectfully requests the Examiner's reconsideration of the application and the timely allowance of pending claims 1, 3, 5,

7-9, 11, 13, 15, 16, 18-22, and 24-35.

If the Examiner does not believe that all pending claims are now in condition for allowance, the Examiner is urged to contact the undersigned to expedite prosecution of this application.

To the extent necessary, a petition for an extension of time under 37 C.F.R. § 1.136 is hereby made. Please charge any shortage in fees due in connection with the filing of this paper, including extension of time fees, to Deposit Account No. 50-1070 and please credit any excess fees to such deposit account.

Respectfully submitted,

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Date: May 5, 2006

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